

L Number	Hits	Search Text	DB	Time stamp
1	16	carbohydrate near8 biosensor	USPAT; EPO; DERWENT	2003/08/14 15:03
2	849	(204/400,403).CCLS.	USPAT; EPO; DERWENT	2003/08/14 15:04
3	0	("l2andbiosensor").PN.	USPAT; EPO; DERWENT	2003/08/14 15:04
4	50	((204/400,403).CCLS.) and biosensor	USPAT; EPO	2003/08/14 15:04
5	11	((204/400,403).CCLS.) and biosensor) and carbohydrate	USPAT; EPO	2003/08/14 15:04
6	15	((204/400,403).CCLS.) and biosensor) and carbohydrate	USPAT; EPO	2003/08/14 15:07
7	2405	(422/68.1,82.01,82.05,82.12).CCLS.	USPAT; EPO	2003/08/14 15:07
8	255	((422/68.1,82.01,82.05,82.12).CCLS.) and biosensor	USPAT; EPO	2003/08/14 15:08
9	52	((422/68.1,82.01,82.05,82.12).CCLS.) and biosensor and carbohydrate	USPAT; EPO	2003/08/14 15:08
10	18	((422/68.1,82.01,82.05,82.12).CCLS.) and biosensor and carbohydrate) and @py<1998	USPAT; EPO	2003/08/14 15:08
11	18	((422/68.1,82.01,82.05,82.12).CCLS.) and biosensor and carbohydrate) and @py<1998	USPAT; EPO	2003/08/14 15:11
12	4170	(436/16+4,169,501,805,806,827).CCLS.	USPAT; EPO	2003/08/14 15:12
13	5150	(436/164,169,501,805,806,827).CCLS.	USPAT; EPO	2003/08/14 15:12
14	4	((436/164,169,501,805,806,827).CCLS.) and (carbohydrate near10 sensor)	USPAT; EPO	2003/08/14 15:12

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FILE 'HOME' ENTERED AT 14:54:15 ON 14 AUG 2003

=> file .jacob  
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FULL ESTIMATED COST

SINCE FILE ENTRY	TOTAL SESSION
0.21	0.21

FILE 'CAPLUS' ENTERED AT 14:54:25 ON 14 AUG 2003  
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FILE 'BIOSIS' ENTERED AT 14:54:25 ON 14 AUG 2003  
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FILE 'MEDLINE' ENTERED AT 14:54:25 ON 14 AUG 2003

FILE 'EMBASE' ENTERED AT 14:54:25 ON 14 AUG 2003  
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FILE 'USPATFULL' ENTERED AT 14:54:25 ON 14 AUG 2003  
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> carbohydrate(5A) sensor(P) surf  
L1 10 FILE CAPLUS  
L2 2 FILE BIOSIS  
L3 3 FILE MEDLINE  
L4 1 FILE EMBASE  
L5 5 FILE USPATFULL

TOTAL FOR ALL FILES  
L6 21 CARBOHYDRATE (5A) SENSOR (P) SURFACE

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=> dup rem
ENTER L# LIST OR (END):16
PROCESSING COMPLETED FOR L6
L7          15 DUP REM L6 (6 DUPLICATES REMOVED)
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=> d 117 ibib abs total
L17 NOT FOUND
The L-number entered has not been defined in this session, or it
has been deleted. To see the L-numbers currently defined in this
session, enter DISPLAY HISTORY at an arrow prompt (->)
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- 13 -

L7 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2003:472640 CAPLUS  
DOCUMENT NUMBER: 139:46033  
TITLE: Sensor for the use in testing biological chemical or environmental samples  
INVENTOR(S): Chilkoti, Ashutosh; Nath, Nidhi; Frey, Wolfgang  
PATENT ASSIGNEE(S): Duke University, USA  
SOURCE: PCT Int. Appl., 30 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003050291	A2	20030619	WO 2002-US37598	20021211
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: US 2001-338688P P 20011211  
AB Disclosed are sensors for use in testing biol., biochem., chem. or environmental samples, and methods of making and using the same.

L7 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2003:417967 CAPLUS  
DOCUMENT NUMBER: 138:398347  
TITLE: Sensor system with a reference surface mimicking the detection surface but with low ligand binding capacity  
INVENTOR(S): Faltum, Carsten  
PATENT ASSIGNEE(S): Caption A/S, Den.  
SOURCE: PCT Int. Appl., 29 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003044530	A1	20030530	WO 2002-DK779	20021119
W:	AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: DK 2001-1724 A 20011119  
AB The invention concerns a sensor system with at least two flexible units, a sensor unit and a ref. unit. The sensor unit comprises a capture surface area functionalized by linking one or more functional groups comprising a capture ligand, such as a member of a specific binding pair. The ref. unit comprises an imitated capture surface area which area has been functionalized by linking one or more functional groups, wherein said one or more functional groups linked to the imitated capture surface area of said ref. unit do not include a ligand which is identical with said capture ligand. The capture ligand may e.g. be a specific binding partner for a biocomponent, preferably selected from the group consisting of RNA oligos, DNA oligos, PNA oligos, protein, peptides, hormones, blood components, antigen and antibodies. The sensor unit and the method make

it possible to reduce the noise, because the signal obtained from the ref. unit which is measuring the noise may be subtracted from a signal obtained from the sensor unit.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 2003:514456 CAPLUS

TITLE: Carbohydrate and alditol analysis by high-performance anion-exchange chromatography coupled with electrochemical detection at a cobalt-modified electrode

AUTHOR(S): Casella, Innocenzo G.; Contursi, Michela

CORPORATE SOURCE: Dipartimento di Chimica, Universita' degli Studi della Basilicata, Via N. Sauro 85, Potenza, 85100, Italy

SOURCE: Analytical and Bioanalytical Chemistry (2003), 376(5), 673-679

CODEN: ABCNBP; ISSN: 1618-2642

PUBLISHER: Springer-Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A cobalt oxyhydroxide film dispersed on a carbon electrode **surface** was characterized and proposed as an amperometric **sensor** for detn. of alditols and **carbohydrates** in flowing streams. Complex mixts. of carbohydrates were sep'd. by anion-exchange chromatog. using a moderately alk. soln. as mobile phase. The cobalt modified electrode (GC-Co) was employed under a const. applied potential of 0.5 V (vs Ag/AgCl). Under these exptl. conditions the detection limits (S/N=3) for all analyzed electroactive mols. ranged between 0.3 .mu.mol L-1 and 1.5 .mu.mol L-1 and the dynamic linear ranges spanned generally three orders of magnitude above the relevant detection limits. Anal. detns. of carbohydrates and alditols in red and white wines, are reported.

L7 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2003:184250 CAPLUS

TITLE: The interactions between boronic acid and diols: The relationship between pKa, pH, and binding constants

AUTHOR(S): Yan, Jun; Springsteen, Greg; Deeter, Susan; Skeuse, Colleen; Wang, Binghe

CORPORATE SOURCE: Department of Chemistry, North Carolina State University, Raleigh, NC, 27695-8204, USA

SOURCE: Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003 (2003), MEDI-284. American Chemical Society: Washington, D. C.

CODEN: 69DSA4

DOCUMENT TYPE: Conference; Meeting Abstract

LANGUAGE: English

AB In our effort of designing boronic acid-based fluorescent **sensors** that recognize **cell-surface carbohydrates** as biomarkers, we are interested in examg. various factors that affect the binding affinity between the boronic acid moiety and a diol. It has been believed that the higher the pH, the higher the binding consts. between a boronic acid and a diol. It is also believed that boronic acids with lower pKa's have higher affinities for diols. However, there has never been a systematic examm. of the relationship between the binding consts., boronic acid pKa, and the pH of the soln. Herein we report our findings with a series of 20 arylboronic acids with various substituents and their binding affinities with diols. We have found that (1) while electron-withdrawing groups significantly lower the pKa of boronic acids, the effect of electron donating groups on the pKa of boronic acids is marginal; (2) the optimal pH for binding is not always above the pKa of the boronic acid and is related to the pKa's of the boronic acid and the diol [pHoptimal=(pKaboronic acid + pKadiol)/2]; and (3) generally

speaking, boronic acids with lower pKa's show greater binding affinities for diols at neutral pH due to both a shift in the optimal pH and higher intrinsic binding affinities.

L7 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2002:777817 CAPLUS  
DOCUMENT NUMBER: 137:291241  
TITLE: Sensor surfaces for detecting analytes  
INVENTOR(S): Stolowitz, Mark L.; Li, Guisheng; Lund, Kevin; Wiley, Jean P.  
PATENT ASSIGNEE(S): Prolinx Incorporated, USA  
SOURCE: PCT Int. Appl., 92 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002078947	A1	20021010	WO 2002-US10541	20020402
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002192722	A1	20021219	US 2002-116013	20020402
US 2003032202	A1	20030213	US 2002-115721	20020402
PRIORITY APPLN. INFO.:			US 2001-281085P	P 20010402
			US 2001-281093P	P 20010402
			US 2001-281094P	P 20010402
			US 2002-360798P	P 20020301

OTHER SOURCE(S): MARPAT 137:291241  
AB The present invention provides a sensor surface comprising: a substrate coated with a free electron metal; and a matrix layer disposed on the free electron metal, wherein the matrix layer comprises an org. compd. having a boronic acid complexing moiety. The matrix is preferably a self-assembled monolayer (SAM), a mixed self-assembled monolayer (mSAM), or combinations thereof. Advantageously, the present invention provides an immobilization chem. for use in biomol. interaction anal. (BIA) that exploits the benefits assocd. with phenylboronic acid reagents and boronic acid compd. complexing reagents, which have been developed for conjugating biol. active species and for exploiting indirect bioconjugation through reversible formation of a boronic acid complex. Diagrams describing the app. assembly and operation are given.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2002:736482 CAPLUS  
DOCUMENT NUMBER: 137:244258  
TITLE: Micromechanic sensor element for the analysis of chemical surface reactions  
INVENTOR(S): Brederlow, Ralf; Thewes, Roland  
PATENT ASSIGNEE(S): Infineon Technologies A.-G., Germany  
SOURCE: PCT Int. Appl., 45 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002075296	A1	20020926	WO 2002-DE944	20020315
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
DE 10113254	A1	20021002	DE 2001-10113254	20010319

PRIORITY APPLN. INFO.: DE 2001-10113254 A 20010319

AB A micromechanic sensor element for the anal. of chem. surface reactions consists of a substrate with an integrated elec. circuit, a membrane covering a cavity of the substrate which can be filled with a piezoelec. material. Metal layers are applied on the surface of the substrate which hold mols., such as DNA strands or ligands, for binding biopolymers, causing a change of the impedance of the oscillating element. The substrate and the membrane consist of the same material, preferably doped silicon. The elec. circuit includes a frequency generator, preferably a gyrator circuit, to excite the membrane, and a signal detector to register the amplitude and/or the frequency/ phase of the membrane oscillations. A Bragg reflection layer is underneath the piezoelec. layer to completely reflect the resonance wave of the oscillating membrane. The sensor element can be integrated in an array of sensors.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN

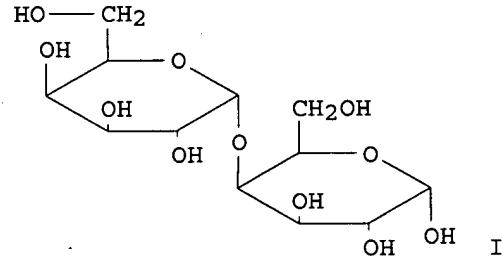
ACCESSION NUMBER: 2002:63847 CAPLUS  
DOCUMENT NUMBER: 136:115061  
TITLE: Sensor and method for detecting verotoxin produced by *Escherichia coli* O-157  
INVENTOR(S): Uzawa, Hirotaka; Minoura, Norihiko; Kamiya, Masako  
PATENT ASSIGNEE(S): Sangyo Gijutsu Sogo Kenkyusho, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002022745	A2	20020123	JP 2000-210727	20000712

PRIORITY APPLN. INFO.: JP 2000-210727 20000712

GI



AB A practical sensor is provided for rapidly detecting verotoxin produced by *Escherichia coli* O-157 with high accuracy, and analyzing it qual. or quant. with high sensitivity. A method for detecting verotoxin using this sensor is also provided. In this sensor, a carbohydrate

deriv. contg. galactose at its terminus expressed by the general formula (I) is immobilized via a monolayer on the surface of a baseplate. In I, Y represents a long chain hydrocarbon group with 8-50 carbon atoms, or a N-substituted Ph group expressed by -C<sub>6</sub>H<sub>5</sub>-NH-R' (R': a hydrocarbon group or an acyl group). The baseplate is preferably the one used for quartz oscillator method or surface plasmon resonance method.

L7 ANSWER 8 OF 15 USPATFULL on STN

ACCESSION NUMBER: 2002:343997 USPATFULL

TITLE: Polymers functionalized with fluorescent boronate motifs and methods for making them

INVENTOR(S): Noronha, Glenn, Oceanside, CA, UNITED STATES  
Reilly, Jonathan, Reseda, CA, UNITED STATES  
Walsh, Joseph C., Los Angeles, CA, UNITED STATES  
Cochran, Brooks, Northridge, CA, UNITED STATES  
Heiss, Aaron M., Orange, OH, UNITED STATES  
Ponder, Bill C., Fort Worth, TX, UNITED STATES  
Vachon, David J., Granada Hills, CA, UNITED STATES

NUMBER	KIND	DATE
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PATENT INFORMATION: US 2002197724 A1 20021226

APPLICATION INFO.: US 2002-75415 A1 20020214 (10)

NUMBER	DATE
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PRIORITY INFORMATION: US 2001-269226P 20010215 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: GATES & COOPER LLP, HOWARD HUGHES CENTER, 6701 CENTER DRIVE WEST, SUITE 1050, LOS ANGELES, CA, 90045

NUMBER OF CLAIMS: 43

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 34 Drawing Page(s)

LINE COUNT: 2243

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Improved polymer matrices which incorporate fluorescent biosensor molecules as well as methods of making and using these polymer matrices are described. Such matrices can be used in fluorescent biosensors and biosensor systems, including those which are used in the detection of polyhydroxylated analytes such as glucose. The properties of the polymer matrices of the invention renders biosensors utilizing such matrices particularly well-suited for detecting and measuring in-vivo glucose concentrations.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 9 OF 15 USPATFULL on STN

ACCESSION NUMBER: 2002:301149 USPATFULL

TITLE: Biosensor detector array

INVENTOR(S): Cass, Anthony E.G., London, UNITED KINGDOM

NUMBER	KIND	DATE
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PATENT INFORMATION: US 2002168692 A1 20021114

APPLICATION INFO.: US 2002-55367 A1 20020125 (10)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 2000-GB3768, filed on 2 Oct 2000, UNKNOWN

NUMBER	DATE
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PRIORITY INFORMATION: GB 1999-23146 19990930

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: NIXON & VANDERHYE P.C., 8th Floor, 1100 North Glebe Road, Arlington, VA, 22201-4714  
NUMBER OF CLAIMS: 50  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 6 Drawing Page(s)  
LINE COUNT: 1813  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method is provided for analyzing a sample. The method comprises the steps of: i) contacting the sample with a detector array comprising a plurality of discrete biological sensing elements immobilized onto or within a solid support; wherein each discrete biological sensing element comprises a detectable label whose characteristics change detectably when the element binds to a ligand within the sample; ii) measuring the characteristics of the detectable label for each element of the array to produce a pattern; and iii) performing data analysis of the pattern; wherein the biological sensing elements are capable of binding more than one different ligand.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 10 OF 15 USPATFULL on STN  
ACCESSION NUMBER: 2002:63747 USPATFULL  
TITLE: Methods and compositions for release of CD3430 cells from affinity matrices  
INVENTOR(S): Magnani, John L., 13713 Woodlark Dr., Rockville, MD, United States 20853

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6362010	B1	20020326
APPLICATION INFO.:	US 1999-390968		19990907 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 1995-471719, filed on 6 Jun 1995, now patented, Pat. No. US 5965457		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Chin, Christopher L.		
LEGAL REPRESENTATIVE:	SEED Intellectual Property Law Group PLLC		
NUMBER OF CLAIMS:	12		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	5 Drawing Figure(s); 5 Drawing Page(s)		
LINE COUNT:	1137		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compounds and methods are provided for use in purification of CD34.sup.+ cells and specific surface antigens thereof. The present invention discloses methods for releasing CD34.sup.+ cells, as well as compounds having a carbohydrate epitope of the CD34 surface antigen, from an affinity matrix, using carbohydrates having the structure:

Neu5Ac.alpha.2-3Gal.beta.1-4 (X)

wherein (X) is GlcNAc, or a monosaccharide or a cyclohexane derivative that is structurally similar to GlcNAc.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 11 OF 15 USPATFULL on STN  
ACCESSION NUMBER: 2001:144135 USPATFULL  
TITLE: Immobilized carbohydrate biosensor  
INVENTOR(S): Nilsson, Kurt, Lund, Sweden  
Mandenius, Carl-Fredrik, Huddinge, Sweden

NUMBER	KIND	DATE
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PATENT INFORMATION: US 2001017270 A1 20010830  
APPLICATION INFO.: US 2001-766659 A1 20010123 (9)  
RELATED APPLN. INFO.: Continuation of Ser. No. US 1994-356229, filed on 19  
Dec 1994, GRANTED, Pat. No. US 6231733 Continuation of  
Ser. No. WO 1994-SE343, filed on 18 Apr 1994, UNKNOWN

	NUMBER	DATE
PRIORITY INFORMATION:	SE 1993-1270	19930417
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	SMITH GAMBRELL & RUSSELL, L.L.P., Suite 800, 1850 M Street, N.W., Washington, DC, 20036	
NUMBER OF CLAIMS:	16	
EXEMPLARY CLAIM:	1	
LINE COUNT:	344	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention refers to a biosensor in which an immobilized carbohydrate or a derivative thereof is used to generate a detectable signal when a protein, a virus or a cell is bound to the **carbohydrate surface**. The **sensor** is an optical sensor, a piezoelectric sensor, an electrochemical electrode or a thermistor. A method of binding carbohydrates to a gold **surface** is also described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 12 OF 15 USPATFULL on STN  
ACCESSION NUMBER: 1999:124793 USPATFULL  
TITLE: Methods of screening for a candidate compound able to bind to CD34.sup.+ cells  
INVENTOR(S): Magnani, John L., 13713 Woodlark Dr., Rockville, MD,  
United States 20853

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5965457		19991012
APPLICATION INFO.:	US 1995-471719		19950606 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Chin, Christopher L.		
LEGAL REPRESENTATIVE:	Seed and Berry LLP		
NUMBER OF CLAIMS:	10		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	5 Drawing Figure(s); 5 Drawing Page(s)		
LINE COUNT:	1145		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compounds and methods are provided for use in purification of CD34.sup.+ cells and specific surface antigens thereof. The present invention discloses methods for releasing CD34.sup.+ cells, as well as compounds having a carbohydrate epitope of the CD34 surface antigen, from an affinity matrix, using carbohydrates having the structure:

Neu5Ac.alpha.2-3Gal.beta.1-4(X)

wherein (X) is GlcNAc, or a monosaccharide or a cyclohexane derivative that is structurally similar to GlcNAc.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 1999:711909 CAPLUS  
DOCUMENT NUMBER: 132:75489  
TITLE: Analysis of Interaction between Lectin and

AUTHOR(S): Carbohydrate by Surface Plasmon Resonance  
Sato, Ayano; Matsumoto, Isamu  
CORPORATE SOURCE: Graduate School of Humanities and Sciences, Ochanomizu  
University, Tokyo, 112-8610, Japan  
SOURCE: Analytical Biochemistry (1999), 275(2), 268-270  
CODEN: ANBCA2; ISSN: 0003-2697  
PUBLISHER: Academic Press  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB We have developed a procedure to prep. plates that have hydrazide groups and successfully applied it to anal. of the interaction between carbohydrates and lectins. Hydrazide groups were introduced to the surface of the CM5 sensor chip by reaction between activated carboxy groups and hydrazide groups of adipic acid dihydrazide, ADHZ. The introduced hydrazide groups were allowed to react with the formyl groups of reducing ends of carbohydrates to form Schiff bases. The Schiff bases thus formed were reduced to give stable alkylamine bonds by reductive amination using NaBH3CN. For efficient immobilization, the surface was initially activated with EDC/NHS for 21 min (three times the recommended activation time) at a flow rate of 5 .mu.l/ min. Then, a 30 mg/mL ADHZ soln. (almost satd. soln.) was injected for 21 min. Fifty milli-grams per mL of chondroitin sulfate, CS or 0.1 M lactose in 10 mM HBS (pH 7.4) was then injected for 30-150 min at a flow rate of 1 .mu.l/min; CS and lactose thus immobilized were detected with anti-CS antibody (CS-56) and Sophora japonica agglutinin, SJA, resp. CS-56 bound specifically to the CS-immobilized surface but not to a heparin-immobilized surface. The precise concn. of specific IgM in CS-56 ascites is unknown; assuming it is 10 mg/mL, kinetic consts. are calcd. by BIA-evaluation:  $ka = 1.5 \times 10^5 \text{ M}^{-1} \text{ s}^{-1}$ ,  $kd = 6.3 \times 10^{-3} \text{ s}^{-1}$ ,  $Kd = 4.5 \times 10^{-8} \text{ M}$  at 250C. Injection of acidic soln. (pH 2.2) resulted in the loss of CS-56 binding. SJA bound to the lactose-immobilized surface in a dose-dependent manner. Kinetic consts. were calcd.:  $ka = 2.3 \times 10^4 \text{ M}^{-1} \text{ s}^{-1}$ ,  $kd = 3.7 \times 10^{-3} \text{ s}^{-1}$ ,  $Kd = 1.6 \times 10^{-7} \text{ M}$  at 25. degree.. (c) 1999 Academic Press.

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2  
ACCESSION NUMBER: 1997:792706 CAPLUS  
DOCUMENT NUMBER: 128:112551  
TITLE: Detection and characterization of weak affinity antibody antigen recognition with biomolecular interaction analysis

AUTHOR(S): Ohlson, Sten; Strandh, Magnus; Nilshans, Helena  
CORPORATE SOURCE: Department of Natural Sciences, University of Kalmar,  
Kalmar, S-391 29, Swed.

SOURCE: Journal of Molecular Recognition (1997), 10(3),  
135-138

PUBLISHER: CODEN: JMOR4; ISSN: 0952-3499  
John Wiley & Sons Ltd.

DOCUMENT TYPE: Journal  
LANGUAGE: English

AB In biol. systems, weak-affinity interactions (assocn. const.,  $Ka$ , of less than approx.  $10^4 \text{ M}^{-1}$ ) between biomols. are common and essential to the integrity of such units. However, studies of weak biol. interactions are difficult due to the scarcity of anal. methods available for the bioscientist. In this communication, the authors report on the use of biosensors based on surface plasmon resonance to detect and characterize weak affinity antibody-antigen interactions. Monoclonal antibodies towards carbohydrate antigens were immobilized on sensor surfaces and were used to detect weak binding of the carbohydrate tetraglucose of dissociation const.,  $Kd$ , in the millimolar range. Sensograms were received in the form of square pulses where the kinetic rate consts. were difficult to assess due to the rapid assocn. and dissociation of the antigen to/from the immobilized antibody.

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 3  
ACCESSION NUMBER: 1996:498429 CAPLUS  
DOCUMENT NUMBER: 125:191498  
TITLE: Expression of Kv1.1 delayed rectifier potassium channels in Lec mutant Chinese hamster ovary cell lines reveals a role for sialidation in channel function  
AUTHOR(S): Thornhill, William B.; Wu, Michael B.; Jiang, Xiaoqiao; Wu, Xiaying; Morgan, Peter T.; Margiotta, Joseph F.  
CORPORATE SOURCE: Dep. Physiol. Biophys., Mount Sinai Sch. Med., New York, NY, 10029, USA  
SOURCE: Journal of Biological Chemistry (1996), 271(32), 19093-19098  
CODEN: JBCHA3; ISSN: 0021-9258  
PUBLISHER: American Society for Biochemistry and Molecular Biology  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Kv1.1 K<sup>+</sup> channels contain significant amts. of neg. charged sialic acids. To examine the role of sialidation in K<sup>+</sup> channel function, Chinese hamster ovary cell lines deficient in glycosylation (Lec mutants) were transfected with rat brain Kv1.1 cDNA. The K<sup>+</sup> channel was functionally expressed in all cell lines, but the voltage dependence of activation (V<sub>1/2</sub>) was shifted to more pos. voltages and the activation kinetics were slower in the mutant cell lines compared with controls. A similar pos. shift in V<sub>1/2</sub> was recorded in control cells expressing Kv1.1 following treatment with sialidase or by raising extracellular Ca<sup>2+</sup>. In contrast, these treatments had little or no effect on the Lec mutants, which indicates that channel sialic acids appear to be the neg. **surface** charges sensitive to Ca<sup>2+</sup>. The data suggested that sialic acid addn. modifies Kv1.1 channel function, possibly by influencing the local elec. field detected by its voltage **sensor**, but that these **carbohydrates** are not required for cell **surface** expression.